

Claims

[1] An dazzle prevention device having an electromagnetic wave detection function, the device protecting eyes of an operator from light generated from a welding or cutting torch, comprising:

- optical detection means for detecting light generated from the welding or cutting torch;
- electromagnetic wave sensor means for detecting an electromagnetic wave generated from the welding or cutting torch;
- electromagnetic wave detection means for comparing a signal, which is input through the electromagnetic wave sensor means and resonated, with a variably set reference value when an electromagnetic wave detection means drive signal is applied;
- control means for, as the optical detection means starts to detect light, applying the electromagnetic wave detection mean drive signal to the electromagnetic wave detection means and monitoring variation of an electromagnetic signal using an output of the electromagnetic wave detection means; and
- light transmission control means for controlling variation of light transmittance of the dazzle prevention plate in response to an output signal from the control means.

[2] The device according to claim 1, further comprising a user interface that comprises mode selection means capable of allowing the operator to select one from among a mode 1 using only the optical detection means and a mode 2 using both the optical detection means and the electromagnetic wave detection means, and display means capable of displaying a selected mode.

[3] The device according to claim 2, wherein the control means can apply the electromagnetic wave detection means drive signal only when the mode 2 is selected by the mode selection means.

[4] The device according to claim 3, wherein the electromagnetic wave detection means comprises:

- a resonance unit for allowing the electromagnetic wave, which is input through the electromagnetic wave sensor means, to resonate;
- a filter unit for removing noise from an output of the resonance unit;
- a comparison unit for comparing an output of the filter unit with the variably set reference value when the electromagnetic wave detection means drive signal is

applied; and
a time constant unit for smoothing an output of the comparison unit.

[5] The device according to claim 4, wherein the comparison unit comprises a comparator, in which the electromagnetic wave detection drive signal is input to a power terminal of the comparator, the output of the filter unit is input to an inverting input terminal of the comparator, and a signal, into which the electromagnetic wave detection means drive signal is divided by a voltage divider including at least one variable resistor, is input to a non-inverting input terminal of the comparator.

[6] The device according to claim 5, wherein the user interface further comprises digital adjustment means capable of varying a resistance value of the variable resistor.

[7] The according to claim 6, wherein the display means additionally displays an electromagnetic wave detection sensitivity number.